

Notice of Allowability

Application No.

10/733,818

Examiner

Dismerly E. Mercedes

Applicant(s)

KIM ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amend. filed 12/12/2005.
2. ☒ The allowed claim(s) is/are 1-5, 8, 22, 27 and 28.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 12/12/2005
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.


WAYNE YOUNG
SUPERVISORY PATENT EXAMINER

DETAILED ACTION

1. Applicant's amendment filed 12/12/2005 have been fully considered and entered.

Reasons for Allowance

2. Claims 1-5, 8, 22, 27-28 are allowed.
3. The following is an examiner's statement of reasons for allowance:

Independent Claim 1 is allowable over the prior art of record since the cited references, and in particular Madsen et al. (US 5,600,500); Fujiwara et al. (US 6,914,738 B2); Lee et al. (US 6,975,475 B2), taken alone or in combination do not teach or suggest: *"measuring a rate of errors while changing a recording parameter of the hard disk drive under a test condition corresponding to a desired operating temperature but maintaining a test temperature; selecting a recording parameter value corresponding to a smallest rate of errors under the test condition; and optimizing the recording parameter of the hard disk drive under the desired operating temperature using the selected recording parameter measured under the test condition corresponding to the desired operating temperature."*

Independent Claim 4 is allowable over the prior art of record since the cited references, in particular Madsen et al. (US 5,600,500); Fujiwara et al. (US 6,914,738 B2); Lee et al. (US 6,975,475 B2) taken alone or in combination do not teach or suggest: *"wherein when the test condition corresponds to a room temperature, data is recorded on tracks adjacent to a target track a predetermined number of times, N, and the data is read from the target track a predetermined number of times, when the test condition corresponds to a high temperature, data is recorded on tracks adjacent to a target track a predetermined number of times, M, wherein $M > N$, and the data is read from the target track a predetermined number of times."*

Independent Claim 8 is allowable over the prior art of record since the cited references in particular Madsen et al. (US 5,600,500); Fujiwara et al. (US 6,914,738 B2); Lee et al. (US 6,975,475 B2) taken alone or in combination do not teach or suggest: *"selecting a recording parameter value*

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corresponding to a smallest rate of errors; optimizing the recording current for the hard disk drive under operating environmental conditions using the selected recording parameter value; and normalizing a graph illustrating the recording parameter versus rate of errors, wherein during normalizing, when there are at least two recording parameter values corresponding to the smallest rate of errors, the method further comprises computing a mean value of the corresponding parameter values.”

Independent Claim 22 is allowable over the prior art of record since the cited references in particular Madsen et al. (US 5,600,500); Fujiwara et al. (US 6,914,738 B2); Lee et al. (US 6,975,475 B2) taken alone or in combination do not teach or suggest: *“measuring a rate of errors for a range of values of a recording parameter; selecting and storing the recording parameter value corresponding to a minimum rate of errors for a given operating temperature; monitoring the operating temperature during recording to the hard disk drive; and employing the stored recording parameter value corresponding to the monitored operating temperature, wherein when there are at least two recording parameter values that correspond to the minimum rate of errors for the given operating temperature, then the selecting of the recording parameter value comprises: normalizing the at least two recording parameter values.”*

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Madsen et al. (US 5,600,500); Fujiwara et al. (US 6,914,738 B2); Lee et al. (US 6,975,475 B2); Chaff et al. (US 6,445,521 B1); Chung (US 6,069,758); Takahashi (US 6,101,053);

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Kassab (US 5,687,036); Oh (US 5,610,776); Emo (US 5,408,367); Tomita et al. (US 6,295,175); Lee et al. (US 6,791,780 B2); Satoh et al. (US 6,661,594 B2).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dismery E. Mercedes whose telephone number is 571-272-7558. The examiner can normally be reached on Monday - Friday, from 9:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne R. Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DM



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SUPERVISORY PATENT EXAMINER